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JOHN F. KENNEDY SPACE CENTER, NASA

KENNEDY SPACE CENTER, FLORIDA 32899

JUL 3 1969

REPLY TO ATTN OF: AP-SVO/69-174

TO: Distribution

FROM: Apollo Program Manager, AP

SUBJECT: APD #19B, "Apollo Mission Evaluation Reporting Requirements"

REFERENCE: Briefing Note to Dr. Debus from AP, dated JUL 30 1969
Same Subject, with APD #19B attached

The APD #19B has been reviewed by AP. A copy is forwarded for your information only.

The revised APD does not impact KSC. The changes are summarized in the Reference; see Enclosure (1).

Any comments you may have with regard to this APD should be addressed to the Chief, Space Vehicle Office, AP-SVO, prior to September 1, 1969.

E R Middleton

R. O. Middleton
Rear Admiral, U. S. Navy

Enclosures:
(1) Briefing Note to Dr. Debus from AP
(2) APD #19B

Distribution:
STDL-B

cc:
Dr. K. H. Debus, CD
Mr. W. P. Murphy, EX

TS90801-9

JUL 3 1969

BRIEFING NOTE TO: Dr. Debus

SUBJECT: APD #19B, "Apollo Mission Evaluation Reporting Requirements"

1. APD #19B, dated July 22, 1969, updates APD #19A, dated January 29, 1969.

2. The revision has no impact on KSC.

3. Changes are:

   a. A change to the "PURPOSE" that recognizes the dissemination to agencies other than the Apollo Program Office.

   b. The incorporation of requirements for detailed reports of scientific experiments and lunar surface activities. Such reporting is an MSC responsibility.

   c. A requirement that data on EASEP and ALSEP performance be included in the Mission Director's Daily Reports.

   d. Changing the reporting times for the Five Day Report and the Ground Systems Evaluation Report (GSER) to five and sixty days, respectively, after "astronaut recovery" rather than "mission termination".

R. O. Middleton
Rear Admiral, U. S. Navy

Enclosure: APD #19B (annotated)

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OFFICE OF MANNED SPACE FLIGHT PROGRAM DIRECTIVE	M-D MA 1400.109 (Project)	DATE 22 July 1969

APOLLO PROGRAM DIRECTIVE NO. 19B

TO : DISTRIBUTION

FROM: Sam C. Phillips
Sam C. Phillips
Lt. General, USAF
Apollo Program Director

SUBJECT : Apollo Mission Evaluation Reporting Requirements

OFFICE OF PRIME RESPONSIBILITY: Apollo Test (MAT)

REFERENCES:
(a) Apollo Test Requirements, NHB 8080.1
(b) Apollo Reliability and Quality Assurance Program Plan, NHB 5300.1A
(c) Apollo Program Directive No. 44A
(d) Apollo Program Directive No. 8A
(e) Apollo Program Directive No. 7
(f) Apollo Program Directive No. 52
(g) Apollo Mission Failure Contingency Plan

I. PURPOSE

This directive establishes mission evaluation reporting requirements for Apollo missions to ensure the maximum amount of systems, operational and scientific information is available to Apollo Program/Project Offices in a timely manner for use in follow-on mission preparation as well as for appropriate dissemination to elements of the government, the scientific community and the public.

II. SCOPE

The Apollo Mission Evaluation Reporting Requirements described herein cover:

A. Mission evaluation plans, reports, meetings and reviews.

B. Scientific data from experiments and lunar surface samples.

C. Identification of all space vehicle, launch active ground support equipment and experiment failures and anomalies.

D. Determination of the cause of failures and anomalies, their closeout, corrective actions for subsequent missions, and impact on the Apollo Program.

III. PLANNING AND REPORTING REQUIREMENTS

Mission evaluation planning and reporting shall be accomplished by the Apollo Program Office (APO) and the centers (MSFC, MSC, KSC) in accordance

with the general requirements in references (a) and (b). The following paragraphs summarize these requirements and identify the minimum plan and report contents as well as responsibilities for the contents:

A. Mission Evaluation Plans (KSC, MSFC, MSC)

Evaluation plans for each mission or block of missions will be prepared and submitted to the Apollo Program Director prior to the mission. These plans will include as a minimum:

1. Mission evaluation organization, reporting, and review requirements outlined in this directive.

2. Mission evaluation meeting schedules (including flight crew debriefing meetings) agenda, and coordination responsibilities.

3. Procedures for failure and anomaly closeout.

4. Intercenter coordination plan and responsibilities.

B. Reporting Requirements

1. Daily Reports During the Mission (APO)

The Mission Director will issue Daily Reports throughout the mission. At the request of the Mission Director, or his designated representative, KSC, MSFC, and MSC will provide the necessary information to support the preparation of these reports. Each daily report will cover the previous twenty-four hour period and will be in two parts, as follows:

a. Operations

A summarization of mission progress, accomplishments, events and systems performance including failures and anomalies.

b. Science

Data on EASEP and ALSEP system and experiment status, performance and any events of scientific importance that have been detected. Failures and anomalies are to be included.

Significant results of other scientific and engineering experiments performed on or in conjunction with the mission as they become available.

2. Daily Reports After the Mission (MSC)

The Center will submit Daily Science Reports to the APO after the mission until otherwise notified by the APO. Each report

will cover the previous twenty-four hour period. The scope of the Daily Science Reports will be as listed in III B 1b above plus the following:

Scientific data of general interest resulting from the examination of the lunar samples in the Lunar Receiving Laboratory.

3. Mission Director's Summary Report (APO)

The Mission Director will issue a Summary Report within twenty-four hours after astronaut recovery. The objective of this report is to provide management with a "quick look" summary of overall mission results and the specific content will be determined by the Mission Director. At the request of the Mission Director, or his designated representative, KSC, MSFC, and MSC will provide the necessary information to support the preparation of this report. In general, the Summary Report will summarize the mission in terms of primary and detailed test objectives accomplished, mission events, science achievements and systems performance including failures and anomalies.

4. Five Day Report (KSC, MSFC, MSC)

The Centers will supply a report to the Apollo Program Director within five calendar days after astronaut recovery. The reports will contain the following information:

a. KSC Reports

Summary of space vehicle and all active ground support equipment countdown failures and anomalies, failure investigation results, corrective actions/closures, initial post launch pad damage evaluation, and data retrieval status.

b. MSFC Reports

Report of the degree to which launch vehicle objectives have been satisfied, major launch vehicle trajectory results including comparisons with predicted conditions, launch vehicle failures and anomalies, failure investigation results and corrective actions/closures.

c. MSC Reports

Report of the degree to which spacecraft objectives have been satisfied, major spacecraft trajectory results including comparison with predicted conditions, spacecraft failures and anomalies, failure investigation results, correction actions/closures.

5. Failure and Anomalies Listing Report (KSC, MSFC, MSC)

Within 30 calendar days after launch, KSC and MSFC will provide to the Apollo Program Director a concise but complete report applicable to Center design responsibilities, of all significant flight, launch complex, and launch active GSE failures and anomalies. In the case of MSC, a similar listing is due 30 calendar days after astronaut recovery. As a minimum requirement the listing will include the following:

a. Description of the failure or anomaly, the time in the mission when it occurred, the possible mode or cause and the results of failure analysis, if available.

b. Criticality of the failure or anomaly, the degree to which it compromised a primary or secondary mission objective and the impact on subsequent mission. Criticality categories of non-conformance are described in reference (c).

c. Identification of any testing required in support of corrective action, the schedule for the testing, and whether it is a constraint on following missions.

d. Corrective action to be undertaken: this will include identification of required redesign and/or modification, revisions to the qualification or certification testing or checkout activities; mission effectivity of any changes and a statement as to whether the failure or anomaly is considered resolved or open. Anticipated closeout dates for failure and anomaly corrective actions should be identified when practicable.

The above report will be used as a baseline for failure and anomaly tracking and closeout. It should be updated and included as the failure and anomaly section of the Final Mission Evaluation Report and the Ground Systems Evaluation Report identified in III B 6 and III B 10 below. Additional updates will be transmitted to the Apollo Program Director until all significant failures and anomalies are closed.

6. Final Mission Evaluation Report (MSFC, MSC)

Final Mission Evaluation Reports will be submitted to the Apollo Program Director within 60 calendar days after astronaut recovery. As applicable to each Center, the reports will include detailed coverage of the following:

a. Identification of spacecraft and launch vehicle configuration, mission trajectory, and sequential events.

b. Results and analysis of spacecraft and launch vehicle system and subsystem performance.

c. Results and analysis of MSFN command tracking, communications, and data acquisition performance.

d. Results and analysis of Center active GSE performance.

e. Evaluation of atmospheric conditions during final countdown and early launch phase.

f. Recovery operations.

g. A separate failure and anomaly summary section as outlined in paragraph III B 5.

In addition to the above requirements, MSC will submit, as Part II to this report, the following data on scientific experiments and sampling:

a. Detailed descriptions and objectives of each scientific and engineering experiment performed on the mission and emplaced on the lunar surface.

b. Results and analysis of the performance of each system and experiment including failures and anomalies.

c. Analysis and interpretation of the data obtained from each experiment.

d. A description of lunar sampling procedures and brief report of the Lunar Geology Experiment.

e. A brief description of the returned lunar samples based upon the preliminary examination of the samples in the Lunar Receiving Laboratory.

f. Photographs, as appropriate, are to be included with each of the above.

7. Preliminary Mission Science Report (APO/MSC)

A Preliminary Apollo Mission Science Report will be published as a NASA Special Publication (SP) 90 calendar days after astronaut recovery. The SP will be based on the data prepared by MSC in III B 6 above.

8. Comprehensive Mission Science Report (MSC)

A Comprehensive Mission Science Report will be published as a NASA Special Publication (SP) 8 months after astronaut recovery. The SP will be based on papers and reports from Experiment and lunar sample Principal Investigators (PI's) as well as the Field Geology Team.

9. Follow-on Mission Science Reports (MSC)

Subsequent to the submission of the data for the Preliminary Apollo Mission Science Report, the Center will provide a report every month covering the previous month on the following:

a. Results and analysis of the performance of each system and experiment emplaced on the moon. Failures and anomalies are to be reported as in III B 5 above.

b. If available from the Investigators, additional results from the analysis of the data obtained in each experiment.

c. Significant results of engineering or other scientific experiments performed on or in conjunction with the mission as they become available.

This requirement will be discontinued upon notification by APO.

10. Ground Systems Evaluation Report (KSC)

A Ground Systems Evaluation Report will be prepared by KSC and submitted to the Apollo Program Director within 60 calendar days after astronaut recovery. The report will include:

a. A chronological summary of major KSC flow events leading to the launch.

b. Atmospheric conditions during final countdown and launch.

c. Center active GSE performance and condition for next flight.

d. A separate failure and anomaly summary section as outlined in paragraph III B 5.

11. FRR and DCR Documentation

For the subsequent Flight Readiness Review (FRR) and where applicable for Design Certification Reviews (DCR), the updated failure and anomalies identified in III B 5 are to be submitted as part of the FRR and DCR documentation and presented as part of the oral presentations at the Apollo Program Directors FRR. FRR and DCR documentation and presentation requirements are established by references (d) and (e).

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IV. FLIGHT EVALUATION MEETINGS (MSC, MSFC)

The Centers will conduct flight evaluation meetings after each mission for Center and inter-Center coordination purposes and to support the reporting, review, and presentation requirements outlined in this directive. Flight crew debriefing meetings will be scheduled by the MSC Director of Flight Crew Operations. The APO and the other Centers will be notified of these meetings to allow appropriate participation.

V. FLIGHT EVALUATION PRESENTATION TO THE MANAGEMENT COUNCIL

Preliminary results of each mission are to be summarized by Center Program Office representatives at the Management Council Meeting following the mission.

VI. CONTINGENCY PLAN

In the event of premature or unsuccessful termination of an Apollo Mission the requirements for security, investigation procedures, data handling, and reporting will be those established in reference (g).

VII. ACTION

This Directive shall be implemented immediately for reporting the results of Apollo flights and to ensure that identification of mission failures and anomalies and suitable corrective actions have been taken.

VIII. DEFINITIONS

The following definitions shall apply to this Directive:

A. Failure

The inability of a system, subsystem, and/or hardware to perform its required function.

B. Anomaly

Any deviation of system, subsystem, and/or hardware performance beyond previously established limits.

C. Significant Failure or Anomaly

Any failure or anomaly which creates or could create a hazardous situation on condition; results or could result in a launch delay or endanger the accomplishment of a primary or secondary mission objective; would indicate a serious design deficiency; or could have serious impact on future missions.

OFFICE OF MANNED SPACE FLIGHT PROGRAM DIRECTIVE	M-D MA 1400.109 (Project)	DATE 8020-1 9/23/69

APOLLO PROGRAM DIRECTIVE NO. 19B

TO : DISTRIBUTION

FROM: Rocco A. Petrone
Apollo Program Director

SEP 19 1969

SUBJECT: Addendum to Apollo Program Directive No. 19B
Apollo Mission Evaluation Reporting Requirements

I. PURPOSE

This addendum adds a one page report schedule to APD No. 19B. The schedule will assist the user of the APD in understanding the sequence of the required evaluation reports. It also indicates the responsible organization (Headquarters or Centers) producing the report.

II. SCOPE

The report schedule is based on the reporting requirements established in Paragraph III and is not intended to modify those requirements.

REPORT SCHEDULE
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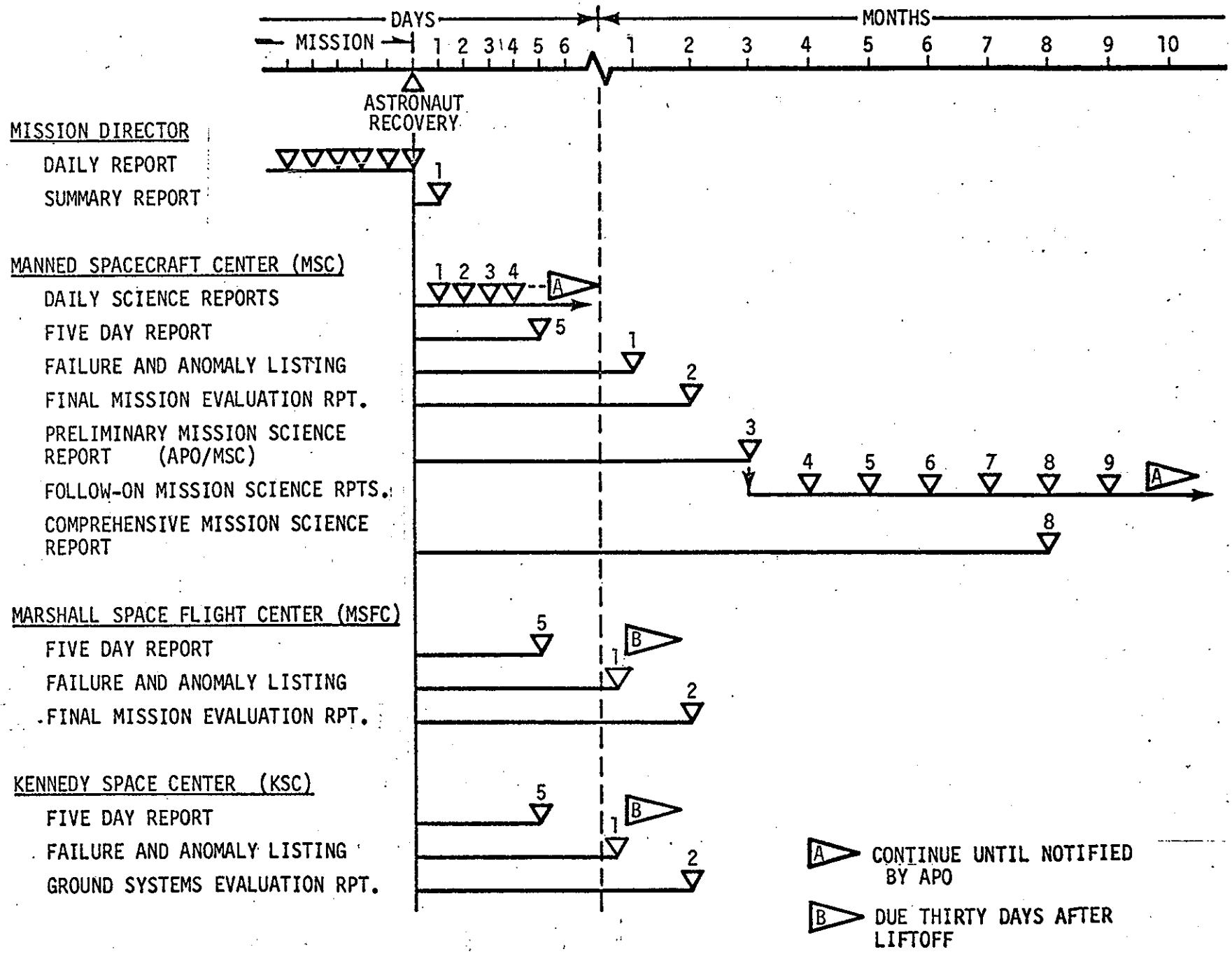

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